

Remarks

Applicants appreciate the Examiner's indication that claims 24-27 are allowable and that claims 2-4, 14-16, and 23 define allowable subject matter. Additionally, in the outstanding Office Action, the Examiner rejects claims 1, 5-13, and 17-22 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,876,663 to Johnson ("Johnson") in view of U.S. Patent Application Publication 2003/0026267 to Oberman et al. ("Oberman").

For the following reasons, Applicants respectfully traverse the rejections based on Johnson and Oberman.

Claim 1 is directed to a network device including a credit counter, a request component, and a fake request circuit. The credit counter is configured to store a value indicating an amount of data eligible to be transmitted from the network device. The request component is configured to generate requests to send data and to receive corresponding grants in response to the requests. The request component decrements the credit counter when the requests are generated and increments the credit counter when grants are received. A fake request circuit generates fake requests that cause grants to be returned to the request component.

The Examiner contends that Johnson discloses many of the features recited in claim 1, but concedes that Johnson does not disclose or suggest the fake request circuit of claim 1. (Office Action, page 2). For this feature, the Examiner relies on Oberman. (Office Action, page 2). Applicants respectfully

disagree with the Examiner's characterization of Oberman, and submit that, for the following reasons, Oberman does not cure the admitted deficiencies of Johnson.

The fake request circuit recited in claim 1 generates fake requests that cause grants to be returned to a request component. Applicants note that a fake request, as used in the pending specification and claims, defines more than just a "regular" request. The concept of a fake request is described in many locations in the as-filed application, and Applicants particularly draw the Examiner's attention to paragraphs 0047 and 0050.

Oberman, appears to recognize that packets on an unreliable link may be corrupted and "lost," which may cause transmission credits to be lost, "potentially resulting in a deterioration of transmission rate." (Oberman, paragraph 0222). Oberman does not attempt to solve this problem using a fake request circuit, as recited in claim 1. Instead, Oberman explicitly discloses using a "credit synchronization procedure" to correct the transmission credit counter, (Oberman, paragraphs 0223 through 0236). One particular embodiment of the credit synchronization procedure of Oberman is described in paragraphs 0230 and 0231. These sections of Oberman state:

[0230] Under the conditions listed in items 1, 2, 3 or 4 above, a credit synchronization message may be sent by a first network switch to a second network switch using a special MAC Control frame. A second timer (e.g. the SyncAckTimeOut register) may be initialized and started, and the SyncCount register may be initialized to 1. Also, one or more SyncRdyCount registers (1 per virtual channel being supported) may be initialized to zero. For each of the virtual channels currently supported, the credit synchronization message may include the current value of the EgCreditCount register. For virtual channels that are not currently supported, the values of the credits sent are zero. Until the credit synchronization acknowledgement message is received by the first

network switch, the SyncRdyCount registers may be incremented every time EgCreditCount is incremented.

[0231] Upon receiving the credit synchronization message, the second network switch may transmit a credit synchronization acknowledgement message using a special MAC Control frame. In one embodiment, this message may include the information that was received in the credit synchronization message. The credit synchronization acknowledgement message may also include, for each of the virtual channels, the current value of the BuffersAvailable register. The value in the BuffersAvailable is the current number of buffers currently available in the fabric for that virtual channel, i.e. the difference between the packets available in the fabric for that virtual channel minus the number of packets that are in the ingress block for that virtual channel. For virtual channels that are not supported, this value may be zero. The IgCreditCount registers may also be updated.

(Oberman, paragraphs 0230 and 0231, emphasis added). Thus, as described in these sections of Oberman, an explicit credit synchronization procedure is performed in which predetermined messages are exchanged to synchronize network switches. These messages of Oberman are not fake requests, which cause “grants to be returned to the request component,” as recited in claim 1. Instead, the synchronization messages of Oberman are clearly described as control messages that contain information used to synchronize network switches. Thus, these messages of Oberman cannot reasonably be said to correspond to fake requests, much less fake requests that cause grants to be returned to a request component.

As is noted by the Examiner, Johnson also does not disclose the fake request circuit recited in claim 1. Although Johnson discloses a router that maintains a credit counter, the router of Johnson is not disclosed as transmitting fake requests as is recited in claim 1. (See Johnson, column 7, lines 16-27).

Accordingly, Applicants submit that Johnson and Oberman, even if combined as the Examiner suggests, would still not disclose or suggest each of the features recited in claim 1, and the rejection of this claim under 35 U.S.C. § 103(a) should therefore be withdrawn. Claims 5-7, which depend from claim 1, also stand rejected under 35 U.S.C. § 103(a) based on Johnson and Oberman. Applicants submit that the rejection of these claims should also be withdrawn, at least by virtue of their dependency from claim 1.

Independent claim 8 and its dependent claims 9-13 and 17 also stand rejected under 35 U.S.C. § 103(a) based on Johnson and Oberman. Applicants respectfully traverse these rejections.

Independent claim 8 is directed to a request controller for metering data flow to a network. The request controller includes a real request vector component and a fake request vector component. The real request vector component generates request messages corresponding to data that is to be transmitted to the network and receives back grant messages indicating that the data can be transmitted to the network. The fake request vector component generates fake request messages to a destination on the network determined by a value in a pointer register. The pointer register is incremented after each fake request message is generated.

The Examiner contends that Johnson discloses many of the features recited in claim 8 but concedes that Johnson does not disclose “a fake request vector component configured to periodically generate a fake request message to a destination on the network determined by a value in a pointer register, the pointer register being incremented after each fake request message is

generated.” (Office Action, page 3). For this feature, the Examiner relies on Oberman. (Office Action, pages 3-4).

Applicants respectfully disagree with the rejection of claim 8 based on Johnson and Oberman. More specifically, Applicants submit that Johnson and Oberman, even if combined, still do not disclose or suggest each of the features recited in claim 8. Neither Johnson nor Oberman, either alone or in combination, discloses or suggests, for example, the fake request vector component of claim 8, which generates fake request messages to a destination on the network determined by a value in a pointer register. As previously discussed, Applicants submit that Oberman does not disclose or suggest the generation of fake requests. The synchronization procedure disclosed by Oberman describes the exchange of synchronization messages that are specifically designed so that two network switches can synchronize a transmission credit communication state by explicitly sending the value of a credit register (Oberman, paragraphs 0230 and 0231). Applicants submit that Oberman, however, can in no way be said to disclose or suggest, as recited in claim 8, a fake request vector component that generates fake request messages to a destination on the network determined by a value in a pointer register.

Accordingly, even if Johnson and Oberman were combined as the Examiner suggests, the combination would still not disclose or suggest each of the features recited in claim 8 and the rejection of this claim should therefore be withdrawn. The rejection of claims 9-13 and 17 based on Johnson and Oberman should also be withdrawn, at least by virtue of the dependency of these claims from claim 8.

Independent claim 18 and its dependent claims 19-22 also stand rejected under 35 U.S.C. § 103(a) based on Johnson and Oberman.

Claim 18 is directed to a method of metering data flow to a network. The method includes receiving at least one data unit for transmission on the network; generating a request to transmit the data unit when a credit counter contains sufficient credits for the data unit; decrementing the credit counter in response to generating the request to transmit the data unit; receiving grant messages from the network that correspond to the transmitted requests, the grant messages indicating that the data unit may be transmitted on the network; and incrementing the credit counter in response to receiving the grant messages. The method of claim 18 additionally includes periodically generating a fake request that does not correspond to a data unit, the fake request causing grant messages to be received from the network and the credit counter to be incremented in response thereto.

In rejecting claim 18, the Examiner contends that Johnson discloses many of the features recited in claim 18 but concedes that Johnson does not disclose “periodically generating a fake request that does not correspond to a data unit, the fake request causing grant messages to be received from the network and the credit counter to be incremented in response thereto.” (Office Action, page 5). The Examiner relies on Oberman to disclose these features. (Office Action, page 5).

Applicants respectfully disagree with the rejection of claim 18 based on Johnson and Oberman. More specifically, Applicants submit that Johnson and Oberman, even if combined, still do not disclose or suggest each of the features

recited in claim 18. Neither Johnson nor Oberman, either alone or in combination, discloses or suggests, for example, "periodically generating a fake request that does not correspond to a data unit, the fake request causing grant messages to be received from the network and the credit counter to be incremented in response thereto," as recited in claim 18. As previously discussed, Oberman does not disclose or suggest the generation of fake requests, much less the periodic generation of fake requests as recited in claim 18.

Accordingly, even if Johnson and Oberman were combined as the Examiner suggests, the combination would still not disclose or suggest each of the features recited in claim 18 and the rejection of this claim should therefore be withdrawn. The rejection of claims 19-22 based on Johnson and Oberman should also be withdrawn, at least by virtue of the dependency of these claims from claim 18.


In view of the foregoing amendments and remarks, Applicants respectfully request the Examiner's reconsideration of this application, and the timely allowance of the pending claims.

To the extent necessary, a petition for an extension of time under 37 CFR 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

HARRITY & SNYDER, L.L.P.

By:


Brian E. Ledell
Reg. No. 42,784

11350 Random Hills Road
Suite 600
Fairfax, Virginia 22030
(571) 432-0800
Customer Number: 44987

Date: January 11, 2006